

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

|  |   |                                   |
|--|---|-----------------------------------|
| ST. JUDE MEDICAL, CARDIOLOGY           | ) |                                   |
| DIVISION, INC., ST. JUDE MEDICAL       | ) | C.A. No.                          |
| SYSTEMS AB, and ST. JUDE MEDICAL S.C., | ) |                                   |
| INC.,                                  | ) |                                   |
|  | ) |                                   |
| Plaintiffs,                            | ) | <b><u>JURY TRIAL DEMANDED</u></b> |
| v.                                     | ) |                                   |
|  | ) |                                   |
| VOLCANO CORPORATION,                   | ) |                                   |
|  | ) |                                   |
| Defendant.                             | ) |                                   |
|  | ) |                                   |

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**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiffs St. Jude Medical, Cardiology Division, Inc., St. Jude Medical Systems AB, and St. Jude Medical S.C., Inc., by their attorneys, bring this Complaint against defendant Volcano Corporation ("Volcano"), and allege as follows:

**NATURE OF THE ACTION**

1. This is a civil action arising out of Volcano's patent infringement in violation of the Patent Laws of the United States, 35 U.S.C. §§ 271 and 281-285.

**PARTIES**

2. Plaintiff St. Jude Medical, Cardiology Division, Inc., d/b/a St. Jude Medical Cardiovascular Division ("SJM CVD") is a Delaware corporation, and has its principal place of business at 177 East County Road B, St. Paul, Minnesota 55117.

3. Plaintiff St. Jude Medical Systems AB ("SJMS AB"), previously known as Radi Medical Systems AB ("Radi MS AB"), is a Swedish corporation, and has its principal place of business at Palmbladsgatan 10, SE-751 35, Uppsala, Sweden.

4. Plaintiff St. Jude Medical S.C., Inc. ("SJM S.C.") is a Minnesota corporation, and has its principal place of business at 807 Las Cimas Parkway, Suite 400, Austin, Texas 78746.

5. Defendant Volcano is a Delaware corporation, and has its principal place of business at 3661 Valley Centre Drive, Suite 200, San Diego, California 92130.

**JURISDICTION AND VENUE**

6. This is a civil action arising under the Patent Laws of the United States, 35 U.S.C. §§ 271 and 281-285. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

7. The Court has personal jurisdiction over Volcano because Volcano is a corporation incorporated in the State of Delaware.

8. Upon information and belief, Volcano is doing business in this judicial district and the Court has personal jurisdiction for this additional reason.

9. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391.

**PLAINTIFFS' INVENTIONS AT ISSUE**

10. Radi MS AB, now SJMS AB, is a pioneer and innovator in the invention and development of guide wires having pressure sensors for measuring arterial blood pressure. SJMS AB's guide wires with pressure sensors have been used by physicians to measure the fractional flow reserve ("FFR") associated with a stenosis or other relative pressure measurement for patients being treated for coronary artery disease. By the use of such pressure measurements, physicians may more accurately identify hemodynamically relevant stenosis and its severity to reduce patient risk and make more informed decisions regarding proper patient treatments.

11. In December 2008, St. Jude Medical Inc., a Minnesota corporation, acquired Radi Medical Systems AB (i.e. "Radi MS AB") from Radi Medical AB, a Swedish corporation. In November, 2009, Radi MS AB changed its name to St. Jude Medical Systems AB (i.e. "SJMS AB").

12. Radi MS AB introduced its first pressure measurement system using an electrical sensor as the Radi PressureWire® measurement system. The PressureWire® products, including guide wires and monitors, were manufactured in Sweden by Radi MS AB, and were distributed in the United States through its wholly owned subsidiary Radi Medical Systems, Inc.

13. Subsequent to St. Jude Medical Inc.'s acquisition of Radi MS AB, the PressureWire® products have continued to be manufactured in Sweden by SJMS AB, and are presently exclusively imported into the United States by SJM CVD and offered for sale and exclusively sold in the United States by SJM S.C.

14. On August 17, 1991, the United States Patent and Trademark Office ("PTO") duly and legally issued U.S. Patent No. 5,938,624 ("the '624 Patent"), entitled "Male Connector With A Continuous Surface For A Guide Wire And Method Therefor." A true and correct copy of the '624 Patent is attached hereto as Exhibit A. SJMS AB is the owner of the entire right, title, and interest in and to the '624 Patent.

15. On March 6, 2001, the PTO duly and legally issued U.S. Patent No. 6,196,980 ("the '980 Patent"), entitled "Male Connector With A Continuous Surface For A Guide Wire, And Method Therefor." A true and correct copy of the '980 Patent is attached hereto as Exhibit B. SJMS AB is the owner of the entire right, title, and interest in and to the '980 Patent.

16. On September 5, 2000, the PTO duly and legally issued U.S. Patent No. 6,112,598 ("the '598 Patent"), entitled "Pressure Sensor And Guide Wire Assembly For Biological Pressure Measurements." A true and correct copy of the '598 Patent is attached hereto as Exhibit C. SJMS AB is the owner of the entire right, title, and interest in and to the '598 Patent.

17. On June 2, 2001, the PTO duly and legally issued U.S. Patent No. 6,167,763 ("the '763 Patent"), entitled "Pressure Sensor And Guide Wire Assembly For Biological Pressure Measurements." A true and correct copy of the '763 Patent is attached hereto as Exhibit D. SJMS AB is the owner of the entire right, title, and interest in and to the '763 Patent.

18. On June 19, 2001, the PTO duly and legally issued U.S. Patent No. 6,248,083 ("the '083 Patent"), entitled "Device For Pressure Measurements." A true and correct copy of the '083 Patent is attached hereto as Exhibit E. SJMS AB is the owner of the entire right, title, and interest in and to the '083 Patent.

**FIRST CLAIM FOR RELIEF**  
**Infringement Of The '624 Patent**

19. Plaintiffs reassert and reallege the foregoing Paragraphs 1-18, as if fully set forth herein.

20. Volcano has made, used, offered to sell, or sold in the United States guide wires, including its PrimeWire pressure guide wire products, that have a male connector that infringe, induce infringement, and/or contribute to the infringement of the claims of the '624 Patent in violation of plaintiffs' statutory rights, which infringement is ongoing.

21. Volcano's infringement has irreparably injured plaintiffs and will continue to injure plaintiffs, unless and until the Court enters an injunction prohibiting further infringement, and specifically enjoins further manufacture, use, offers for sale and sale of Volcano's products that fall within the scope of the '624 Patent.

22. Volcano's infringement has injured plaintiffs, and plaintiffs are entitled to recover damages adequate to compensate for such infringement, including a recovery of lost profits and in no event less than a reasonable royalty for Volcano's use of the invention.

**SECOND CLAIM FOR RELIEF**  
**Infringement Of The '980 Patent**

23. Plaintiffs reassert and reallege the foregoing Paragraphs 1-22, as if fully set forth herein.

24. Volcano has made, used, offered to sell, or sold in the United States guide wires including its PrimeWire pressure guide wire products, that have a male connector that infringe, induce infringement, and/or contribute to the infringement of the claims of the '980 Patent in violation of plaintiffs' statutory rights, which infringement is ongoing.

25. Volcano's infringement has irreparably injured plaintiffs and will continue to injure plaintiffs, unless and until the Court enters an injunction prohibiting further infringement, and specifically enjoins further manufacture, use, offers for sale and sale of Volcano's products that fall within the scope of the '980 Patent.

26. Volcano's infringement has injured plaintiffs, and plaintiffs are entitled to recover damages adequate to compensate for such infringement, including a recovery of lost profits and in no event less than a reasonable royalty for Volcano's use of the invention.

**THIRD CLAIM FOR RELIEF**  
**Infringement Of The '598 Patent**

27. Plaintiffs reassert and reallege the foregoing Paragraphs 1-26, as if fully set forth herein.

28. Volcano has made, used, offered to sell, or sold in the United States guide wire assemblies with pressure sensors, including its PrimeWire pressure guide wire products, that infringe the '598 Patent in violation of plaintiffs' statutory rights, which infringement is ongoing.

29. Volcano's infringement has irreparably injured plaintiffs and will continue to injure plaintiffs, unless and until the Court enters an injunction prohibiting further infringement,

and specifically enjoins further manufacture, use, offers for sale and sale of Volcano's products that fall within the scope of the '598 Patent.

30. Volcano's infringement has injured plaintiffs, and plaintiffs are entitled to recover damages adequate to compensate for such infringement, including a recovery of lost profits and in no event less than a reasonable royalty for Volcano's use of the invention.

#### **FOURTH CLAIM FOR RELIEF**

##### **Infringement Of The '763 Patent**

31. Plaintiffs reassert and reallege the foregoing Paragraphs 1-30, as if fully set forth herein.

32. Volcano has made, used, offered to sell, or sold in the United States guide wire assemblies with pressure sensors, including its PrimeWire pressure guide wire products, that infringe the '763 Patent in violation of plaintiffs' statutory rights, which infringement is ongoing.

33. Volcano's infringement has irreparably injured plaintiffs and will continue to injure plaintiffs, unless and until the Court enters an injunction prohibiting further infringement, and specifically enjoins further manufacture, use, offers for sale and sale of Volcano's products that fall within the scope of the '763 Patent.

34. Volcano's infringement has injured plaintiffs, and plaintiffs are entitled to recover damages adequate to compensate for such infringement, including a recovery of lost profits and in no event less than a reasonable royalty for Volcano's use of the invention.

#### **FIFTH CLAIM FOR RELIEF**

##### **Infringement Of The '083 Patent**

35. Plaintiffs reassert and reallege the foregoing Paragraphs 1-34 as if fully set forth herein.

36. Volcano has made, used, offered to sell, or sold in the United States guide wire assemblies with an interface cable and information storing means, including its PrimeWire pressure guide wire products, that infringe the '083 Patent in violation of plaintiffs' statutory rights, which infringement is ongoing.

37. Volcano's infringement has irreparably injured plaintiffs and will continue to injure plaintiffs, unless and until the Court enters an injunction prohibiting further infringement, and specifically enjoins further manufacture, use, offers for sale and sale of Volcano's products that fall within the scope of the '083 Patent.

38. Volcano's infringement has injured plaintiffs, and plaintiffs are entitled to recover damages adequate to compensate for such infringement, including a recovery of lost profits and in no event less than a reasonable royalty for Volcano's use of the invention.

**PRAYER FOR RELIEF**

WHEREFORE, plaintiffs respectfully request the Court for the following relief:

A. A judgment that Volcano has infringed the '624 Patent, '980 Patent, '598 Patent, '763 Patent and '083 Patent.

B. A permanent injunction prohibiting Volcano, its officers, agents, servants, employees, attorneys, and those persons in active concert or participation with them who receive actual notice of the Order, from committing further acts of infringement;

C. An award of damages to plaintiffs, and an increase in damages under 28 U.S.C. § 284, together with prejudgment interest from the date the infringement began and post-judgment interest;

D. A finding that this case is "exceptional" within the meaning of 35 U.S.C. § 285, and an award to plaintiffs of their reasonable attorney fees and expenses;

E. An award of costs to plaintiffs; and

F. Such other and further relief as this Court deems proper and just.

**JURY DEMAND**

Pursuant to Fed. R. Civ. P. 38(b), plaintiffs hereby demand a trial by a jury on all issues so triable.

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